APHIS, PPQ **SJ 4003**
Various Locations **(October 2003)**

GS-0434-9/11/12, Plant Pathologist (working title: Identifier)

INTRODUCTION

The incumbent of this position is an Identifier enrolled in a formal, comprehensive mentorship and career development program intended to prepare the employee for a career in the field of plant pathology. The development program will involve various components, including formal training and education. The program will be tailored to the background and previous experience of the individual employee. At the commencement of an employee's entry into this program, PDC management will design a specific training and development plan to enable the individual's success in the field of plant pathology and qualification for the position. Candidates successfully completing the program are eligible for noncompetitive promotion to the position of GS-12 level.

These positions are located at various designated Plant Protection and Quarantine (PPQ) duty locations.

The primary responsibility of the incumbent is to perform specialized and difficult taxonomic work based on major subject matter expertise. The incumbent provides expertise in pest biology, taxonomy and risk analysis as a recognized specialist and consultant or team member to Agency import policy staff, survey design groups, survey personnel, and CAPS program managers. The incumbent reviews, evaluates and suggests modifications of inspection or trapping methodologies and approaches as an enhancement to plant pest and plant disease surveillance systems.

DUTIES AND RESPONSIBLITIES

Serves as a Plant Pathologist with responsibility for performing specialized and difficult taxonomic work, and providing taxonomic, biological and regulatory expertise in support of plant quarantine program activities.

1. Identifies or verifies identification of plant pests, such as plant pathogens (i.e., bacteria, fungus) and identifies and isolates nematodes; identifies specimens to genera and, where sufficient information is available, to species. Records required information and reports results of taxonomic work as necessary. Refers some pests to National Identifiers, when virtually no pertinent reference material is available, the interception is particularly unusual or to obtain identification authority through expert confirmation. Manages highly variable identification workloads to ensure that timely sample processing and other program priorities are met.

2. Categorizes potential pest as injurious and of economic significance; cosmopolitan and domestic and not significant; or not significant or cosmopolitan and domestic but significant in particular parts of the United States.

3. Maintains, develops, and supplements information on taxonomy, hosts, distribution and other related information pertaining to intercepted and/or survey plant pests; develops and maintains

specimen collections of plant pests pertinent to programs in the incumbent's area of coverage. Develops and maintains specimen collections of plant pathogens.

4. Consults with and advises Department of Homeland Security (DHS), State departments of agriculture and other cooperators on the identity and biology of and procedures for detecting plant pests, such as plant pathogens. Monitors samples submitted for identification, pest interception and survey data, and pest detection techniques to determine training needs for these personnel. Corrects program sample screening deficiencies by transferring applicable technology and knowledge, and by responding to inquiries from inspection or survey personnel.

5. Develops or aids in developing training modules and appropriately illustrated identification aids and works with national program staff to deliver training to PPQ, DHS and State employees. Training modules cover basics of inspection, general identification guidelines, use of equipment, basic risk associated with pests and hosts and related topics. In cooperation with the Professional Development Center, delivers inspection identification training programs.

6. Exercises agency regulatory authority by initiating regulatory action, e.g. for quarantine pests intercepted from imported commodities or new State or county determinations from domestic surveys. Determines options for quarantine actions to be enforced by DHS and PPQ, such as prohibiting or restricting entry of particular commercial commodity shipments with specific, appropriate treatment or release without treatment or initiating extensions of domestic quarantine areas.

7. Provides technical assistance regarding PPQ domestic program pests and exotic pests, and the pathways with which they enter the US by analyzing interception records for trends of pest entry, monitoring inspection procedures and establishing solid contacts with industry. Works with local and regional regulatory personnel to analyze and characterize pest risk of pathways, contributing critical expertise on pest biology, taxonomy and detection methods. Based on determined level of risk, provides feedback to both PPQ and DHS on resource allocation. Advises on the optimal use of resources based on the level of pest risk and the risk of that pest becoming established in the US. Provides feedback on the AQI monitoring process and its effectiveness in intercepting pests.

8. Keeps current and uses state of the art technology to perform taxonomic duties such as digital imaging, chemical diagnostic tests, and microscopy and specimen preparation techniques and equipment.

FACTOR LEVELS

1. Knowledge Required by the Position – In-depth and advanced knowledge of specialty as well as other related fields is needed in order to effectively evaluate plant pest data and to interpret agency procedures.

A working knowledge of PPQ programs, regulations and treatment methods is needed to provide sound identification, regulatory and risk assessment advice and effectively recommend adaptive procedural techniques. Independently performs the full range of duties associated with complex taxonomic identification and treatment work. Thorough knowledge of quarantine programs, regulations, and treatment methods in order to effectively recommend adaptive techniques for situations not covered by precedent. Possesses an intrinsic understanding of the biology of the pest, host material and their origin.

Ability to gather, correlate, and analyze facts, draw logical conclusions, and to devise solutions.

Ability to communicate effectively both verbally and in writing in order to provide technical and scientific information, teach, advise, consult and work in teams with a wide variety of contacts. Experience in or the ability to learn digital imaging techniques for the remote identification of pests.

Ability to understand and apply risk assessment principles to a variety of circumstances. Tracks, synthesizes and communicates information on emerging risk situations and trends. Conducts scientifically-based, complex risk analyses on pathways and pests in order to make improvements regarding the efficiency and effectiveness of operational activities for exclusion and detection on a local basis. For example, the incumbent researches pest habits and biology and commodity processing and shipping procedures in order to formulate best pest detection methods for the pathway. Aids in conducting national pest risk analyses by providing expertise on pests within their discipline and local pest pathways to national analysis staffs

Basic skill in using computer programs necessary to operate Agency information management systems, including programs such as email, word processors, spreadsheets, and databases, to communicate with others; record, organize and analyze data; format training and job aid tools; and prepare reports in Agency format.

It is mandatory that the incumbent of this position be certified according to the USDA pesticide applicator certification program within the prescribed time established previously.

2. Supervisory Controls - The incumbent reports to a PPQ Officer in Charge if stationed at a Plant Inspection Station, or to the State Plant Health Director if located outside of a Plant Inspection Station. The incumbent also works under the general direction of APHIS headquarters staff [National Identification Services (NIS)], who coordinate Agency taxonomic support, provide technical performance evaluation for Identifiers and advise on overall objectives and available resources. Having developed expertise in the specialty area, the incumbent resolves most technical problems which arise, coordinates work with others, as necessary, and interprets Plant Protection and Quarantine program policy on own initiative in terms of established objectives. Completed work is accepted as technically sound and review is from overall standpoint of effectiveness of services rendered (e.g., backlog of work, complaints, rate of successful identification or rate of referral to other specialists, or other more appropriate measures). As a general rule, due to the lack of in-depth knowledge of taxonomic plant pathology on the part of the supervisor of this position, the supervisory review tends to be administrative in nature rather than technical. Input for technical review will be provided by NIS. The supervisor reviews completed work in terms of

success of the objective of the program, scientific credibility, and in terms of adherence to Agency regulations and directions

The supervisor is accountable for the proper administration of the employee's career development program. This includes ensuring that the incumbent of this position is afforded the opportunity to advance to the GS-12 Identifier position through carefully managed work assignments, training, and education. The supervisor monitors the overall progress of the employee in this position and makes decisions regarding advancement and transition to the full performance level.

3. Guidelines – Available guidelines include technical references, methodology manuals and texts, specimen collections, and Agency manuals; however, they are often not directly applicable due to the complexity of the specimens forwarded for identification and the concomitant lack of a directly applicable database. For example, to identify an Asian organism, the incumbent may use a taxonomic key developed for a group of organisms from western Europe, because no key to Asian species exists. Verification of the result obtained from using the key often requires further research for comprehensive descriptions of the suspect taxon and similar taxa, detailed examination of specimens in these taxa (often for taxonomic characters not used in the key), knowledge and interpretation of morphological variability within the suspect taxon and other factors. Occasionally, the incumbent will have to develop taxonomic tools or modify existing tools to distinguish poorly documented taxa.

Uses initiative and resourcefulness and draws on personal experience and education in the specialty area to select and apply appropriate scientific techniques to identify and classify specimens. Where necessary, the Identifier extrapolates or otherwise deviates from established identification and classification methodology to arrive at conclusions on difficult (to identify) specimens.

Incumbent is proactive in application of agency general guidelines on protection of the environment. Even when agency guidelines are not clear, the incumbent is able to take corrective action and make sound quarantine decisions in order to prevent pest outbreaks. Provides ongoing technical evaluation of guidelines and proposes changes or corrections in order to support the overall agency mission.

4. Complexity – Duties frequently include intricate and undefined identification activities. A thorough working knowledge of available technology and identification processes are essential in order to perform complex identification. Identifies emerging technological advancements in field of specialty, and applies them to the identification process. Typically, the work includes complexities such as unusual analytical requirements and lack of specific and available scientific literature concerning the genera or species of pest. These complications can lead to uncertainty as to the most promising direction to take to successfully identify the pest.

Identifies or verifies the pests and determines quarantine action on problems requiring originality in approach and modification of techniques (1) when the "find" is an immature, little known, or unknown pest or form of pest; (2) it is a form that closely resembles a harmless type; or (3) there is considerable risk that the treatment for the pest might be injurious to the particular plants or cargo and a different approach is required. For example, if an immature, unrecognizable pest is found,

and the treatment for that pest is a fumigation that would severely burn the imported commodity, that shipment would normally be refused entry to the U.S. However, the Identifier may order less restrictive quarantine action (e.g. further inspection) for cases where he/she assesses risk is low, based on analysis of pest biology, past interceptions of known related pests, and sound quarantine practice.

The dynamic nature and diversity of activities requires the incumbent to rapidly adjust methods and priorities to meet program needs. To identify problems, the incumbent must closely monitor detection procedures, pest interceptions, pest survey samples, Agency and other related information. Often within highly restricted time frames, the incumbent resolves problems by assessing pest risk posed by local pathways or survey results and devising and implementing or recommending revised procedures.

5. Scope and Effect - The purpose of the work is to provide expertise in a particular specialty area through the analysis and identification of exotic and potentially destructive plant pests, to recommend specific quarantine actions and/or support national exotic pest and program pest surveys and export certification. In addition, the incumbent applies his/her expertise in the export enhancement mission of the agency and pest management programs. Serves as a technical advisor at the field level often at a multi-state or multi-discipline level. Advises on national import/export policy issues directed to national policy but with a practical field perspective. Provides advice on quarantine treatments, and revision and relevancy of agency treatment manuals and policy. Reviews quarantine treatments as applied to export of US agriculture products.

The proper disposition of imported plants and related agricultural products suspected of being infested with economically significant plant pests depends upon the identity of the suspect organism. The work assigned the position, therefore, affects the coordination and operation of field activities in terms of effectiveness and acceptability of quarantine service performed as well as the ultimate marketability and health of agricultural resources.

6. Personal Contacts – Daily contacts are with APHIS, line, and staff officials, with officials in other agencies, state and local government officials, and with representatives of the scientific community and private industry.

Attends local, state, regional and national scientific conferences, and represents the agency regarding policy on critical and controversial issues. Provides analysis of position papers provided by scientific bodies on import or export policy. Serves as a technical expert on various agency or state committees helping to develop import, export or pest survey policy. Participates in international forums discussing pest identification issues.

7. Purpose of Contacts – Provides and obtains technical information regarding taxonomy, biology, distribution and risk posed by foreign and introduced pests. Keeps abreast of current taxonomic programs and materials in order to provide expert advice and assistance. Reports on status or results of work, recommends quarantine actions, and solves operational problems. Shares knowledge of emerging technological advancements with other Identifiers throughout the agency.

Recognized as a local and state level expert on pest taxonomy and biology issues in support of agency import, export and/or pest survey policy. Participates in work groups and public forums in support of agency programs by providing technical expertise in the area of specialty. Influences stakeholders and policymakers to support agency position and import/export mission goals.

8. Physical Requirements – The position is generally sedentary, although there is prolonged standing at times. Occasional field survey/investigations or collection trips require walking, bending, crouching and climbing for prolonged periods in rough terrain subject to a variety of weather conditions.

A valid and current state driver's license is required. Must be able to perform work while wearing a respirator while overseeing fumigations. Some travel is required.

9. Work Environment - The work is performed in an inspection station or in a laboratory setting. There are regular and recurring risks associated with working around and with chemicals.